

538041

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number  
**WO 2004/053130 A1**

- (51) International Patent Classification<sup>7</sup>: **C12N 15/29**
- (21) International Application Number:  
PCT/KR2003/002693
- (22) International Filing Date: 9 December 2003 (09.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/431,892 9 December 2002 (09.12.2002) US
- (71) Applicant (for all designated States except US): **TOOL-GEN, INC.** [KR/KR]; Daedeok Biocommunity, 461-6, Jeonmin-dong, Yuseong-gu, 305-390 Daejeon (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KIM, Jin-Soo** [KR/KR]; #202, Jeonmin-dong 299-8, Yuseong-gu, 305-390 Daejeon (KR). **SHIN, Hyun-Chul** [KR/KR]; Expo Apt. 407-1704, Jeonmin-dong, Yuseong-gu, 305-390 Daejeon (KR). **KWON, Heung-Sun** [KR/KR]; Sangroksu Apt. 103-1508, Mannyun-dong, Seo-gu, 302-781 Daejeon (KR).
- (74) Agent: **JANG, Seongku**; 19th Fl., KEC Building, #275-7., Yangjae-dong, Seocho-ku, Seoul 137-130 (KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: REGULATORY ZINC FINGER PROTEINS

GAATTCTGTGCCCTCACTCCCCCTGGATCCCTGGGCAAAGCCCCAGAGGAAACACAAACAGGTTGTTGTA  
ACACACCTTGTGTTGGGTACCACCATGGAGGACAGTTGGCTTATGGGGGTGGGGGTGCCTGGGGCCACGGA  
GTGACTGGTGATGGCTATCCCTCCTTGAACCCCTCCAGCCTCCTCTTAGCTTCAGATTTGTTATTTGT  
TTTTTACTAAGACCTGCTCTTTTCCAGTCTGTTGGCTCTTTTAGGGCTGAAGAAGGCCGAGTTGAGAAGG  
GATGCAAGGGAGGGGGCCAGAATGAGCCCTTAGGGCTCAGAGCCTCCATCCTGCCCAAGATGTCTACAG  
CTTGCTGCTCCTGGGGTGCTAGAGGCGCACAAAGGAGAAAGTTAGTGGCTTCCCTTCCATATCCCGTTCAT  
CAGCCTAGAGCATGGAGCCAGGTGAGGAGGCTGCCTGGGAGGGGGCCCTGAGCCAGGAAATAACATT  
TACTAACTGTACAAAGACCTTGCTCCCTGCTGCTGGGGAGCCTGCCAAGTGGTGGAGACAGGACTAGTGCA  
CGAATGATGGAAGGGAGGGTTGGGGTGGGTGGGAGCCAGCCCTTTTCTCATAAGGGCCTTAGGACACC  
ATACCGATGGAACCTGGGGTACTGGGGAGGTAACTAGCACCTCCACCAAACACAGCAACATGTGCTGA  
GGATGGGGCTGACTAGGTAAGCTCCCTGGAGCGTTTTGGTTAAATTGAGGAAATTGCTGCATTCCCATT  
CTCAGTCCATGCCTCCACAGAGGCTATGCCAGCTGTAGGCCAGACCCTGGCAAGATCTGGGTGGATAATC  
AGACTGACTGGCCTCAGAGCCCCAACTTTGTTCCCTGGGGCAGCCTGGAAATAGCCAGGTCAGAAACCAG  
CCAGGAATTTTCCAAGCTGCTTCCATATGCAAGAATGGGATGGGGGCCTTTGGGAGCACTTAGGGAAG  
ATGTGGAGAGTTGGAGGAAAAGGGGGCTTGAGGTAAGGGAGGGGACTGGGGGAAGGATAGGGGAGAAGC  
TGTGAGCCTGGAGAAGTAGCCAAGGGATCCTGAGGGAATGGGGGAGCTGAGACGAAACCCCATTTCTAT  
TCAGAAGATGAGCTATGAGTCTGGGCTTGGGCTGATAGAAGCCTTGGCCCCCTGGCCTGGTGGGAGCTCTG  
GGCAGCTGGCCTACAGACGTTCCCTAGTCTGGCGGGTAGGTTTGAATCATCACGAGGCCCTGGCCTCC  
ACCCGCCCCCACCAGCCCCCTGGCCTCAGTTCCTGGCAACATCTGGGGTTGGGGGGGCAGCAGGAACAA  
GGGCTCTGTCTGCCAGCTGCCTCCCCCTTTGGGTTTTGCCAGACTCCACAGTGCATACGTGGGCTCCA

(57) Abstract: Disclosed are chimeric zinc finger proteins that can regulate endogenous genes. Examples of such proteins include proteins that can regulate VEGF-A expression. The proteins and nucleic acid encoding them can be used to modulate angiogenesis.

WO 2004/053130 A1